78.09

TEXAS Highways

June, 1956

Do You Know Texas ?

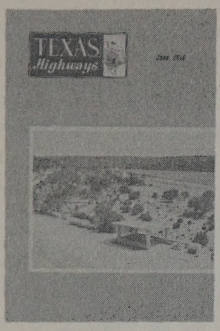
U.S. Highway 81 Business Route passes right by Spring Lake at San Marcos. Here at the tree-lined headwaters of the San Marcos River one of the most unusual tourist attractions in the country has been established.

An underwater ballet theater—the Aquarena—stages shows every day in the year. There's nothing unusual in that, but the fact that the ballet goes on in the clear, spring-fed water of the river itself makes this one of Texas' more interesting attractions.

The audience sits in a steel submersible structure with a glass side facing a two-level stage. The show begins above the water and as the submarine theater is lowered under the surface the performance goes under water too. The Aquamaids do lovely ballet routines, feed schools of fish and diving ducks, and even eat a picnic lunch during the show.

In addition to the underwater theater, visitors can take rides on glass-bottomed boats that disclose an underwater world of huge catfish, petrified trees, and submarine gardens of aquatic plants.

About the Cover . . .



This is the time of year that thoughts start turning to vacations and traveling. And the subject of travel calls to mind roadside parks. In Texas they rank high among the likes listed by tourists and are a point of pride with the Highway Department. The Department has built and maintains about 1,000 of these parks and turnouts along the highways for the convenience and safety of motorists. Many of them serve a twofold purpose — they give travelers a place to rest or to stop safely off the highway to view some striking scenery. One of these, on State Highway 27 west of Kerrville, is shown on our cover. Offering a magnificent view of a part of Texas' beautiful Hill Country, the park also has picnicking facilities, making it possible for the motorist to relax, eat, and drive on refreshed.

Vol. III

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TEXAS Highways

The purpose of this publication, "Texas Highways," is to furnish a medium for presenting practical ideas and information. Employees are invited and urged to submit suggestions and relate experiences which would benefit or be of interest to Highway employees. These conclusions and data are not necessarily endorsed by the Highway Department nor are they to be construed as instructions.

Photographic services are available and other assistance may be obtained, if desired, in preparing material for submission. All material and comments should be directed to the Information and Statistics Division, Austin 14, Texas.

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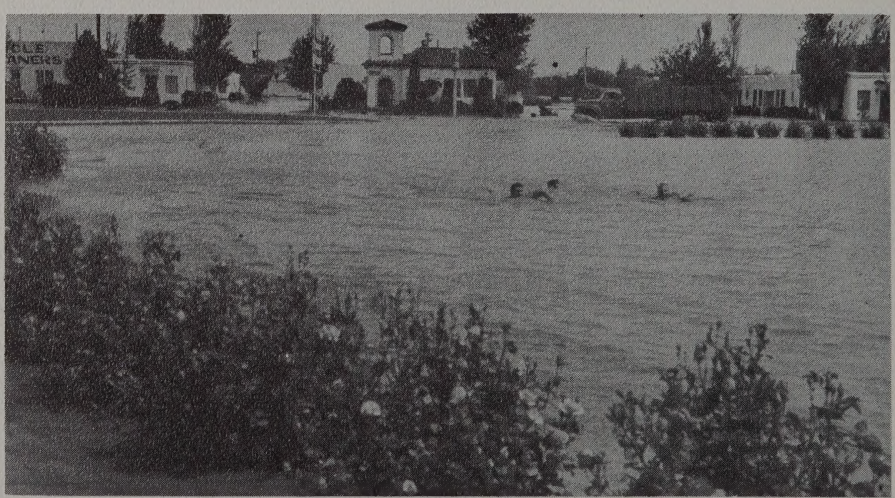
COMPILED AND EDITED
Information and Statistics Division

AND THE

E.M. Pritchard, Assistant District Engineer, District 23
and
Ben J. Lednicky, Senior Landscape Adviser, Maintenance Operations Division

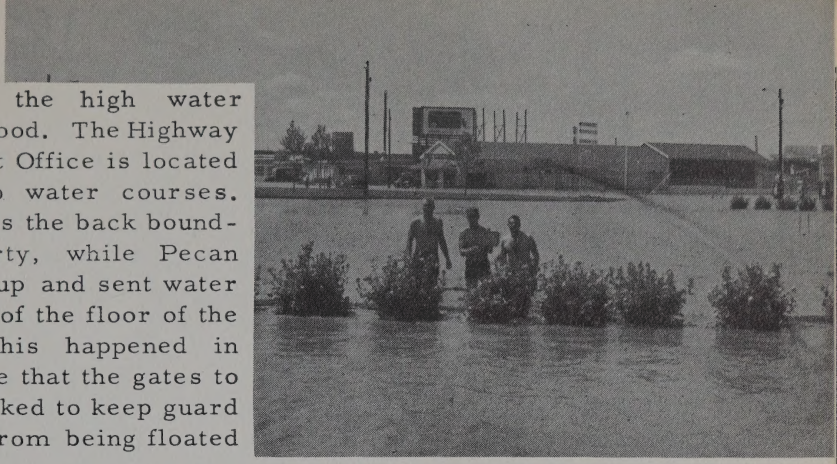
Brown County could easily copy a much advertised slogan, "When it rains it pours." The rains seem to come in king-size packages whenever they do get here.

On Sunday night, April 29, Brownwood and a large vicinity had a good rain that soaked the ground thoroughly and put much water in the creeks. All day Monday we had intermittent showers and Monday night the community of Thrifty, fifteen miles northwest of Brownwood, had a twelve-inch rain in a period of eight hours. The first rains in Brownwood caused Adams Branch to overflow. Adams Branch empties into Pecan Bayou. As Adams Branch receded then the flood waters of Pecan Bayou descended on Brownwood, causing water to back up into Adams Branch. This is the "one-two"



The flood may have been a headache to maintenance men in the Brownwood area, but these three gents are enjoying a swim in the traffic circle on May 2. Somewhere underneath them is a large bed of cannas.

punch that causes the high water troubles in Brownwood. The Highway Department District Office is located between these two water courses. Adams Branch forms the back boundary of our property, while Pecan Bayou has backed up and sent water up to within inches of the floor of the District Office. This happened in June 1945, the time that the gates to the grounds were locked to keep guard posts and timber from being floated away.



Water was approximately eight inches over the curbings around the circle, giving the impression that the roses are growing in a lake. The sign reads "Cutting Flowers Prohibited."

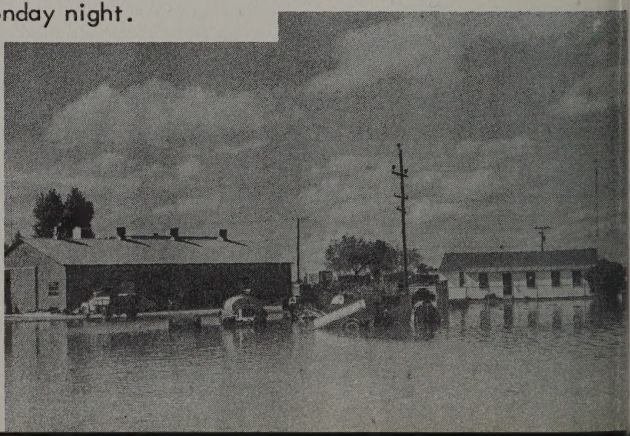
Water laps at the curbs in front of the District Office. The driveway leading to the warehouse in the background funneled off much of the water, which would otherwise have been over the curbs and into the District Office.

District Engineer Robert J. Milligan and E.M. Pritchard watch to see what will happen next. The traffic circle is to the right.

This water, covering U.S. 377, is the overflow caused by Adams Branch. Adams Branch forms the back boundary of the District Office grounds.

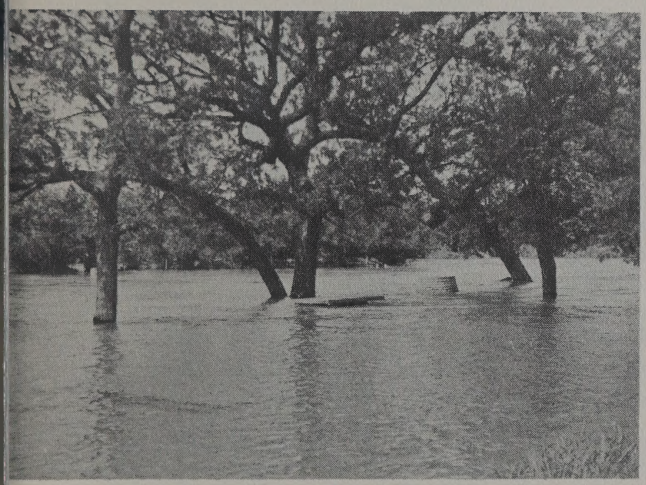
"T-Bone" Randolph, yard man, caught several large fish in the backwater which almost flowed into the District Sign Shop.

Milligan tries to determine where to place the new District warehouse and shops. At cresting time, the water was 23 inches deep. Employees had to remove trucks, doziers, tractors, and other machinery ahead of the rising waters Monday night.



In the District grounds, water looks pretty deep when this picture was made, but it had already receded twelve inches.

This picture was made from a truck about 200 feet east of the District Office looking east on U.S. 67 and 84. The traffic circle is ahead.



Park business was very light for several days in Pecan Bayou roadside park adjacent to the highway and the Bayou.

Our most recent troubles started on Monday night, April 30, at about 8:30 P.M. and lasted until 5 A.M. Thursday morning. For approximately 57 hours all available workmen were working eighteen-hour shifts flagging traffic, pushing traffic through the water whenever possible, and working the dragline at the bridges to remove driftwood.

The Foreman, L. C. Cleveland, worked around the clock from Monday morning until Thursday at midnight, having no more than three hours sleep in any one day. The water was officially recorded as being six and one-half feet over the spillway at Lake Brownwood, the highest elevation ever recorded. Looking at a map of Brownwood, three major highways junction in Brownwood plus many F.M. highways that feed the major highways. One section of highway, approximately one-half mile in length, is common to all of these highways. It is under this short section of highway that the overflow of Lake Brownwood and Pecan Bayou flow. Even with a large bridge over the Bayou and two large relief structures, on occasions the high water disrupts traffic.

Over 250 families were routed from their homes and cared for in Memorial Hall by the Salvation Army and Red Cross. The National Guard Unit was called out, the Department of Public Safety moved in with a mobile short wave radio unit, likewise patrolmen from many points were called to the scene.

This makes three such floods in Brownwood in recent years, namely June 1945, June 1951, and May 1956. Perhaps these are omens of events to come and maybe we should start building an ark. As many people speculate, on one of these occasions the dam may give way and the ark could shoot the rapids all the way to the Gulf of Mexico.

All roads thus far constructed are expected to wear out some day. That is, the time will come when ordinary maintenance methods can no longer keep them in a passable condition. When this condition arises, it is necessary to go to heavier maintenance. We have reached this point on some of the concrete roads in District 12.

We have in District 12 approximately 600 miles of 18-foot and 20-foot pre-World War II concrete roads carrying a traffic volume of from 1,500 to 7,000 vehicles per day. Due to the nature of the subbase, the excessive amount of rainfall and the heavy volume of traffic, some of the concrete roads in District 12 have

1. To fill existing voids beneath the slab, thereby eliminating collection of water in these pockets.

2. To give a more uniform bearing beneath the slab, tending to eliminate rocking.

3. To form a membrane beneath cracks and joints to inhibit pumping of subgrade material.

In District 12, we use an asphalt slurry composed of 36 gallons of RC-2 cutback asphalt and two sacks of cement per cubic yard of sand silt material. Our quantities on asphalt slurry underseal jobs usually vary from 50 to 100 cubic yards per mile, at a cost of from $25 to $28 per cubic yard.

heavy maintenance on concrete roads

R.A. Scott, Senior Maintenance Superintendent
District 12

deteriorated to the extent that it has become necessary to go to heavier maintenance methods. We approach this problem by undersealing, breaking out and replacing failed sections with new materials. Undersealing is a somewhat controversial operation, but we believe that its three important functions are as follows:

In making repairs to failed sections of concrete pavement, we have used various methods. The most desirable concrete pavement repair is to remove failed sections and replace with concrete; however, due to the curing time required, even where high early strength cement is used, the handling of traffic on very heavily

traveled roads is extremely difficult.

In District 12 we have attempted to accomplish this by the use of dry-batch concrete, using five sacks of cement per cubic yard, local base materials of iron ore gravel, post oak gravel, or sand-shell. After using the dry-batch for some time, it was found that after a period of time the replaced sections failed under traffic. We reduced the cement content by degrees until at present we are using two sacks of cement per cubic yard with iron ore gravel or post oak gravel. We are using three sacks of cement with sand-shell. We use just enough water to make a stiff paste of the material. Our experience has shown that extremely heavy tamping is necessary in placing this type mixture. At the beginning of this type of work we used a small, round, pneumatic tamp, but found that by using an eight-inch tamp on a 90-pound pneumatic hammer, we achieved better results.

After the broken pavement is removed, the subgrade should be excavated to a depth of at least nine inches and the replacement material placed in two or three courses, depending on the depth. Each course should be vigorously tamped with a heavy tamp, beginning at the outer edge and working toward the center. We leave the replaced material three-fourths inch lower than the concrete surface and after waiting a few days to allow the moisture in the material to evaporate, we place approximately 75 pounds of rock asphalt or other type of premix to the square yard. When concrete pavements subjected to heavy traffic fail to the extent that such measures as those previously discussed are necessary, it can be only a matter of time, if the heavy traffic continues, until the most economical remedy is reconstruction of the road surface, utilizing as far as possible the existing concrete. This has been done in District 12, as elsewhere, by placing additional courses over the old slab, consisting of a heavy overlay of hot-mix asphaltic concrete, or a flexible base, surfaced with hot-mix asphaltic concrete, or some other type of bituminous surface. I believe that the most of the people responsible for maintenance will join me in recommending that whenever the money is available, the latter type of reconstruction be used. Thus, the elapsed time between the initial construction and reconstruction of a concrete road depends on the volume of traffic that uses it and upon the manner in which it is maintained.

We believe that it is the duty of the Maintenance Division to make this interval as long as is practicable, consistent with the money available for maintenance and with the actual needs of the traveling public.

● ● ●

Capsule Statistics for Busy Executives . . .

A new law in Saudi Arabia provides: "If an accident occurs as a result of speed and negligence. . . the offender will be imprisoned for one year and his driving license will be withdrawn. If an accident results in the death of any passengers and the driver is proved to have been the cause, he will be executed whoever he might be."

—INTERNATIONAL ROAD SAFETY AND TRAFFIC REVIEW (55)

Movable Resident Engineer Offices

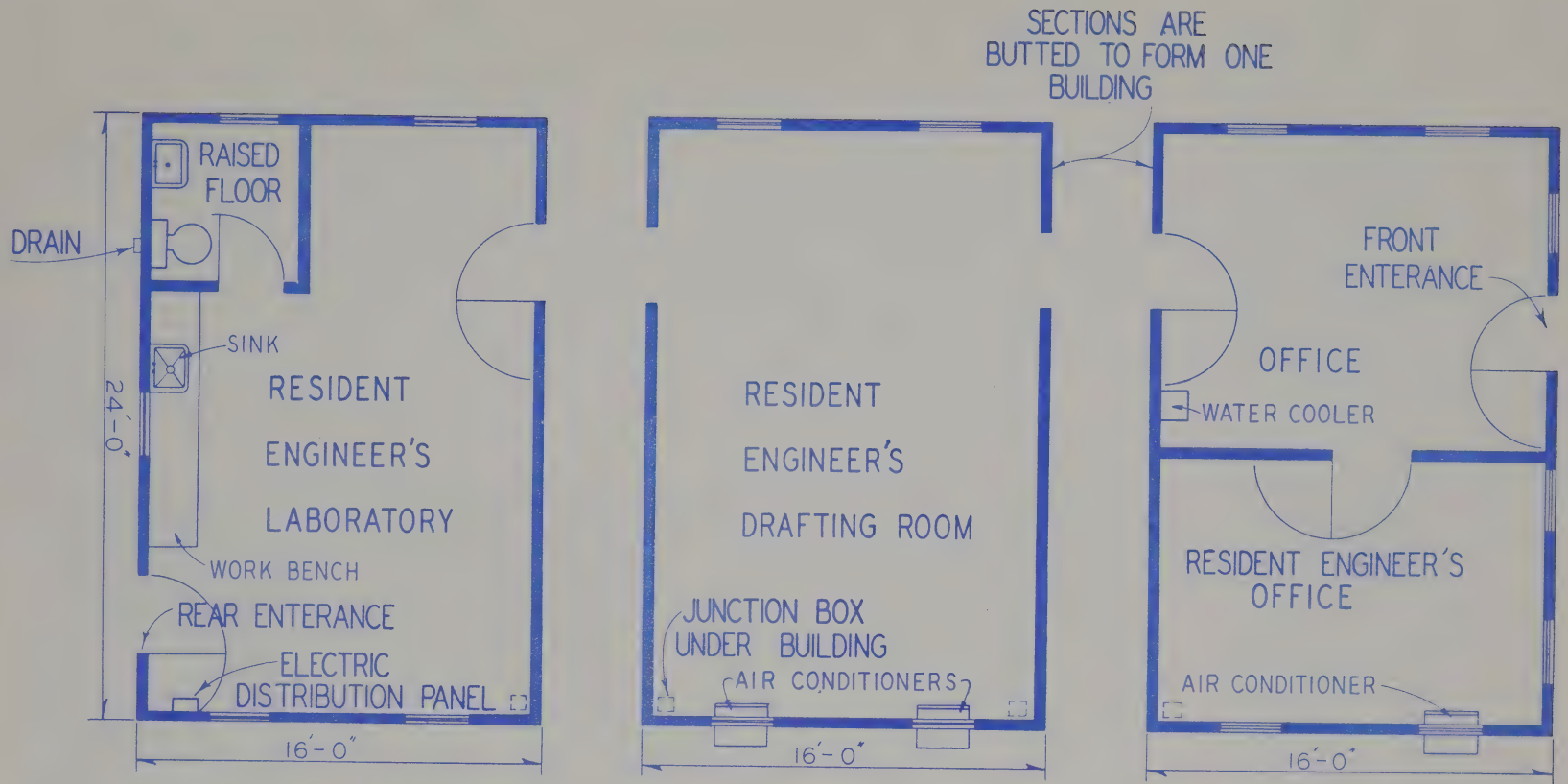
S.R. Busby, Assistant District Engineer
and
Ross Fitzpatrick, Senior Draftsman
District 21

There are several counties in District 21 in which the volume of construction work is insufficient to have a permanent resident engineer's office. In these counties there may be a project from time to time, that will require the location of a resident engineer in the county for a period of six months to one year, and then there may be several years elapse before a residency is again needed. It is usually difficult to rent a suitable office, and it is not practical to build a permanent office and leave it vacant over long periods of time.

To meet this need, two movable resident engineer offices were built and now are located in counties where work is going on. These offices consist of three sections. The sections are 16 feet wide by 24 feet long. These sections when placed together as indicated in the photographs give an office and laboratory area equal to a 24-by-48-foot building. Each of these buildings cost approximately $12,000, or approximately $4,000 per section, and the cost of moving the three sections between any areas in this district will not exceed $400 for the actual moving cost of the buildings. In addition to this cost, it is necessary that foundations be constructed and underground piping placed at each new location. The total cost of the foundation, the piping, and the moving of the buildings will not exceed $1,000.

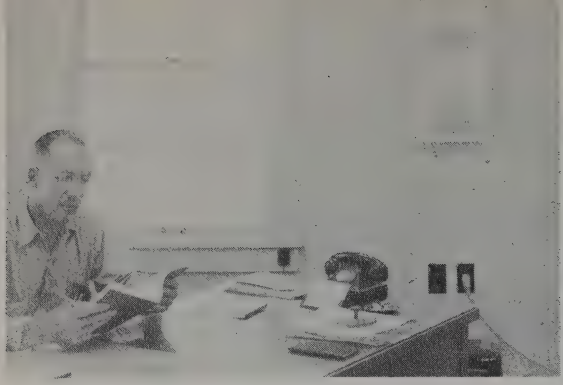
These buildings are of heavy frame construction with wood siding outside and with a built-up roof. Inside walls consist of three-fourths-inch tongue and groove diagonal sheathing covered with one-fourth-inch plywood. The surface of the plywood is finished in enamel. The ceilings consist of diagonal sheathing covered with acoustic tile. The floors consist of asphalt tile on two layers of three-fourths-inch diagonal sheathing. The walls, ceilings, and floors were constructed in this manner to avoid cracking during the moving operation. These buildings were both constructed in the district warehouse yard in order to make full use of all of our power wood-working tools, and the buildings were moved from 50 to 75 miles to their final location without any damage or cracking.

The buildings are completely insulated and air conditioned. They are adequately lighted with fluorescent lights. The inside appearance of the building compares favorably with the appearance of even our best permanent offices.

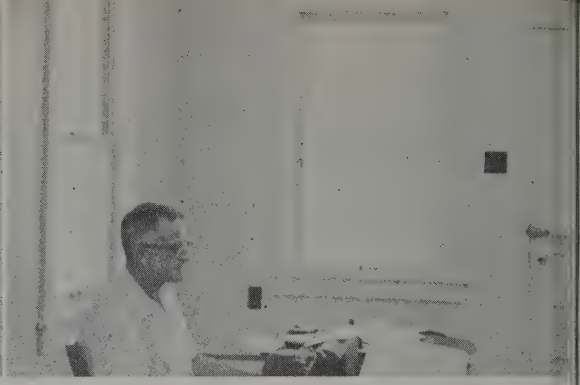


NOTE : WATER & GAS PIPING IS RUN UNDERGROUND
& CONNECTED TO EACH SECTION UNDER BUILDING

FLOOR PLAN

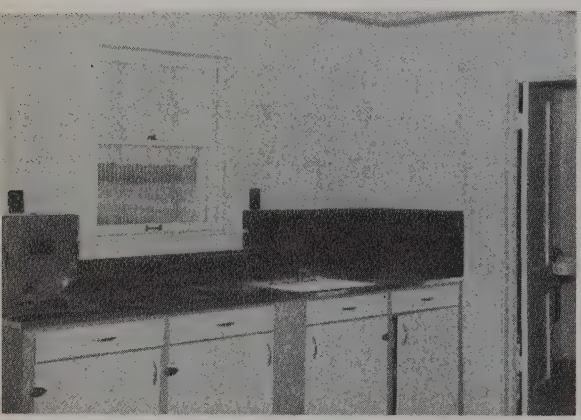


Resident Engineer's office at Falfurrias.



Entrance room in Falfurrias office.

Drafting room at Rio Grande City office.



Laboratory in Rio Grande City office.

Resident Engineer's office at Rio Grande City.

In constructing these buildings, no pipe work or conduits are exposed below the floor joist. All plumbing is placed in the rear section, and the drains extend out through the side walls. The electrical conduits in each section terminate at a junction box underneath the building at the same point in each section. In connecting the wiring between the different sections, a length of steel flexible conduit is run between these two junction boxes, and by this means all three sections are interconnected. To move the buildings, it is only necessary that the water and drain lines be disconnected from the building and the flexible conduit sections removed between the junction boxes. All of the electrical wires are numbered in each junction box and it takes only a short time to reconnect the building. Each section can then be picked up simply by running two large timbers underneath the section. Each section makes a load only sixteen feet wide which can be easily moved over any highway.

The foundation consists of concrete posts. These posts were constructed by setting up a joint of twelve-inch concrete pipe on a small concrete footing about 24-inches square and filling the pipes with concrete. This gives a cheap foundation that can be left in place if the building is moved off. If it ever becomes necessary to place the building again at this location, it will be a simple job to move the building back and set it on the same foundation.

Trinity River Bridge

R.R. Renshaw, Senior Resident Engineer
District 10

"Big Celebration to Feature Bridge Dedication. Other Counties to be Asked to Participate." So runs the heading for the feature story by the Palestine Herald-Press back in 1927 when the bridge over the Trinity River on State Highway 43 (now U.S. 79) was completed. The bridge replaced Bonner's Ferry which had charged 50 cents per person or $1.50 per vehicle.

The big celebration took place September 2 in the form of an all-day picnic and barbecue which began with a parade across the bridge. Governor Dan Moody cut the ribbon which released huge balloons on each end of the bridge. At noon 8,000 pounds of beef, pork, and mutton barbecue and 5,000 pies were served to the crowd of ten to fifteen thousand people. Bands from Palestine, Teague, and Wortham were present that afternoon. Other items on the program were a prize fight, jazz orchestra, quartets and other musical numbers, Tom Mix and his horse Tony, Old Fiddler's Contest, bronco busting, contest for ugliest man, and contest for prettiest girl who was crowned queen. The final event was the wedding of M. P. Edmonson to Miss Lee Hobson. The bride was given in marriage by Governor Moody while U.S. Senator Earle B. Mayfield was best man. Merchants had donated numerous gifts to the happy couple. The Edmonsons now live in Palestine where he is the local representative of the Railroad Commission of Texas.

A reporter from the Dallas News was present to record the events and a Pathe Newsreel man took pictures. The I & GN ran a special excursion train to the site. At that time there were no improved roads leading to the bridge although contracts had been let for a concrete pavement in Freestone County and bonds had been voted in Leon County for road construction.

The old Slough Bridge looking west.

The old River Bridge looking west.

The total length of the bridge project was one and one-tenth miles, composed of 3,300 feet of earth fill and 2,442 feet of bridging. The River Bridge consisted of two 205-foot steel spans and two concrete girder spans of 34 feet each with twenty-foot roadway and 1,150 feet of treated timber pile trestle with seventeen-foot clear roadway. There were 814 feet of treated timber pile trestle with seventeen-foot clear roadway in the relief bridge. The bridge was to be five feet above the highest high-water mark at this location and would be the only all-weather crossing of the Trinity within 100 miles of Palestine.

No fanfare at all ushered in the new bridge recently completed on September 23, 1955, which replaced

Substructure of the old bridge.

The above pictures show pier construction at the side of the old River Bridge.

The bridge contract was let May 18, 1926, to Austin Bridge Company of Dallas and Joe G. Ballenger of San Benito was awarded the earth work. The project was to cost $194,000, of which the Bureau of Public Roads contributed 50 per cent and the State Highway Department 16 2/3 per cent with Freestone and Anderson County each contributing 16 2/3 per cent. The plans were drawn and the project constructed under the supervision of E. W. Davis, County Engineer, and V. R. Schmidt, Resident Engineer.

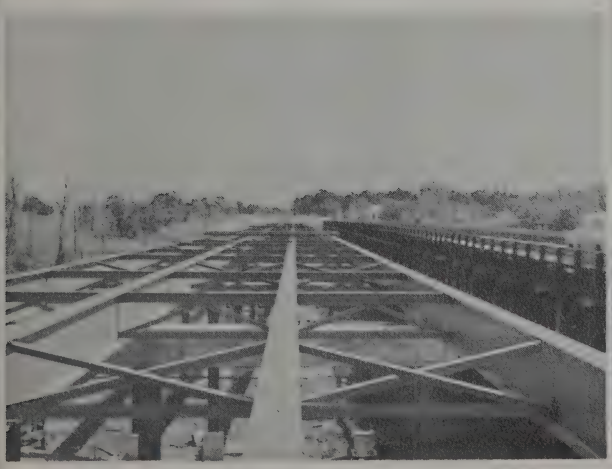
this wonderful bridge of the Twenties. The new Bridge consists of two 40 foot I-Beam spans; two 150 foot continuous I-Beam units (50-50-50), six 200 foot I-Beam units (50-50-50-50), and a three-span continuous plate girder unit (100-140-100) with an over-all length of 1,722 feet, 11 inches, all with 28 foot roadway. A relief bridge of four 200-foot continuous units (50-50-50-50) 801.5 feet long completes the bridge requirements.

The plate girder unit is supported by four slender piers placed on battered foundation steel H-Beam piling. The remaining substructure consists of pile bents with four fourteen-inch steel H-Beam piling with concrete caps in each bent.

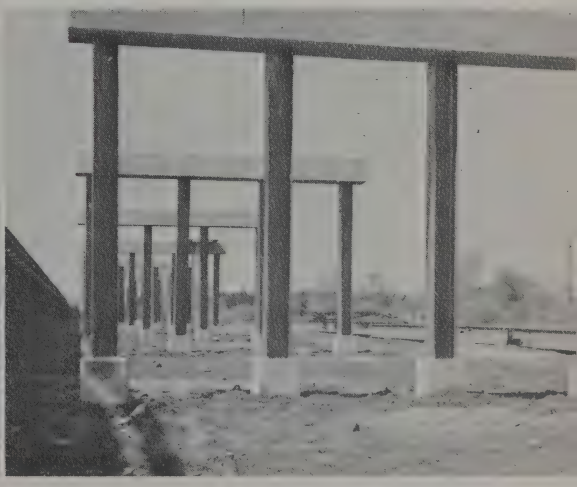
The contract was awarded to contractors John F. Buckner and Sons, of Cleburne and R. C. Buckner of Jacksonville on April 6, 1954. Beginning of work was delayed until June 7, 1954, as the Contractors were unable to get an early delivery of steel piling. R. C. Buckner gave his direct attention to the project, and through his special desire for an excellent job, and with the cooperation of his crew, the project was carried to satisfactory completion with a minimum of delay and hazard to traffic.

The new bridge and embankment were built 40 feet upstream and north of the center line of the old bridges. The old structures and pavement were left in place as a detour until the new structures were open to traffic. Since the old embankment consisted of river bottom borrow of high plasticity the new sandy embankment material was hauled in from knolls outside the limits of the bottom. The principal material source was on the Freestone County side at the intersection area where U.S. 79 and U.S. 84 join, thereby improving sight distance on both highways. After the new structures were open to traffic and new base materials placed on the

Wrecking the old Slough Bridge.



New trestle superstructure.



Trestle superstructure viewed from ground.

New River Bridge looking west.

New interchange at intersection of U.S. 79 and 84 looking west.

new embankment the flexible base material from the present road was salvaged and added to the new base. Then the slopes of the old fill section were cut to line and grade and the gumbo soil placed to complete the north, or upstream side of the new fill. The purpose of this material was to protect the new sandy embankment from erosion during high water and to provide a rich soil for growth of sod.

The plans provided for the separation of traffic on the west end where U.S. 79 and U.S. 84 diverge. The design called for dual divided lanes on each highway with a minimum of conflict at the point of intersecting traffic. To date the design has functioned satisfactorily.

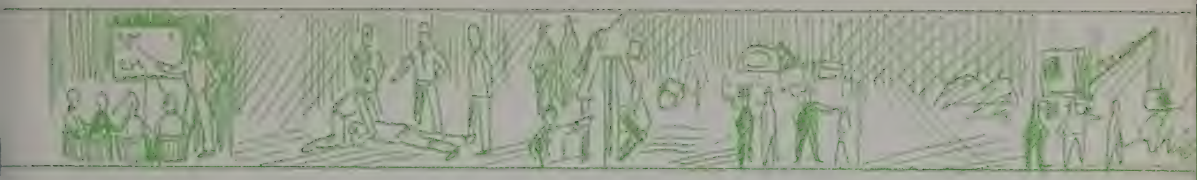
Direct supervision of construction was made by David W. Hogan, Resident Engineer, and R. R. Renshaw, Senior Resident Engineer, with offices in Palestine and under the general control of A. C. Gentry, District Engineer, for the Department at Tyler. W. W. Glass was superintendent for the contractor during the major period of construction.

The concrete and steel portion of the old structure was removed by the contractor as a bid item. The timber approach spans and the timber relief bridge were salvaged by the State maintenance forces. The relief bridge was removed by District 10 forces under the direction of I. H. Crutcher Jr., District Maintenance Engineer of Tyler, and the approach spans on the Freestone County side by District 17 forces under the direction of O. L. Crain, Assistant District Engineer of Bryan.

Interesting features of the construction were the field welding of the continuous I-Beam units and diaphragms, and the use of high-strength tension bolts in plate-girder field connections. With the able guidance and help of P. V. Pennybacker, Wayne Henneberger, Arnold Staubach and others of the Bridge Division at Austin the work was carried out expeditiously with very satisfying results.

There were no unusual problems encountered during construction. Since the entire period was in a drouth cycle, there were no rises or high water to cause difficulties. The encasement of steel piling with concrete at ground line was added during the work as it was considered necessary due to salt water from a nearby oil field. Also, because the soil in the bottom is subject to deep cracking during dry weather, it was expected that there would be a costly maintenance problem to control rust action at the ground line unless added protection was given.

The contract cost of the bridges amounted to $458,200.20. The 1.866 miles of roadway approaches, a considerable portion being dual roadways, cost $131,708.62, making a total contract amount of $589,908.82.



Safety Training

Alton Vordenbaum, Senior Maintenance Superintendent
District 15

Safety cannot be overemphasized. Last year there were 1,110 on-the-job accidents, of which 263 were lost time and 3 were fatal. What are you doing in your district about safety?

As this writer looks back 28 years in the Highway Department, he is reminded of the conditions that existed concerning safety training for our employees.

There was no formal training as we know it now. While it is gratefully acknowledged that a few supervisors taught a limited amount of safety on the job, most of the workmen's attitudes were that anyone who needed safety training to keep them from getting injured must be a sissy. There was considerable horseplay and carelessness on the job. Severe injuries, which could have been prevented by using reasonable precaution, resulted in a number of instances.

Compensation insurance did not become available until 1938. Therefore, the employee had to pay his own medical bills and lose his salary while away from work. This was a true hardship. While the accident was fresh in other men's minds, it had considerable effect, but this soon wore off. Considering all the unsafe practices on the job at that time, it is surprising more accidents did not occur.

Since our Insurance Division began operation in 1938 and inaugurated our present safety training program, progress has been excellent. However, much remains to be done. Due to constantly changing conditions and other important factors involved, safety training must be a continuing process. It would be dangerous to assume enough has been absorbed or that training and vigilance may taper off. Regular monthly safety meetings and safety councils are a valuable aid in accident prevention. Consistent daily application of these safety principles on the job, however, is a must to obtain dependable results.

The important objective of accident prevention cannot be fully realized unless a vigorous, consistent program is adopted. To accomplish this, it is necessary that we all be for it from the highest supervisor to the man in the ranks. It is every employee's obligation, a part of his job, to work safely. This the employee will do if he knows it is expected and required of him.

The goal that we are striving for, that of preventing human suffering, hardship, and economic loss, should be a strong incentive to all of us.

OSGOOD SHOVEL REPAIRS

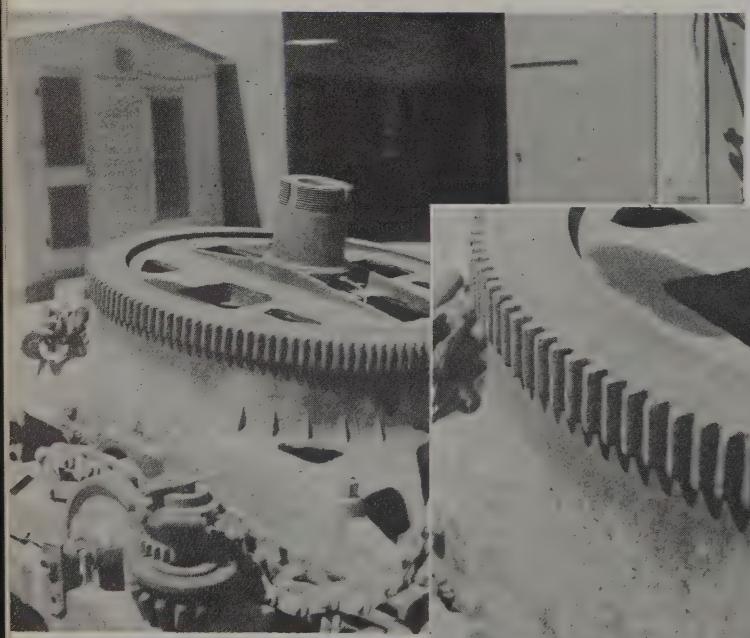
Our District Shop recently overhauled a Model 200, one-half cubic yard Osgood shovel, and it was necessary to build up the roller path gear, travel gear, track pads, rollers, and sprockets.

The roller path gear and travel gear was built up with Marquette Number 130 welding rods. Some of the teeth were completely gone on the roller path gear and the remainder were very badly worn.

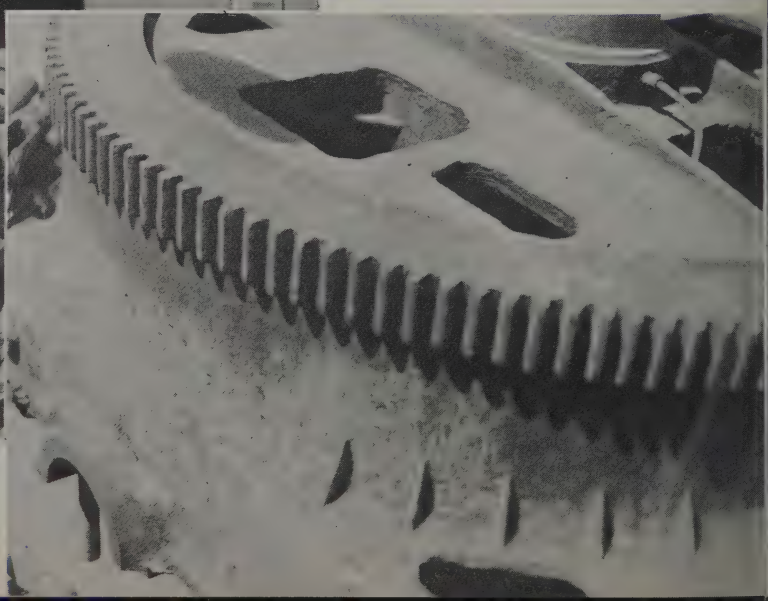
The track pads, rollers, and sprockets were built up with Stoody Number 1027 welding rods.

Skilled Laborer H. Earl Bell did this excellent welding job at a cost that was approximately half the price of the new parts.

C.C. Bull, Shop Foreman
District 6

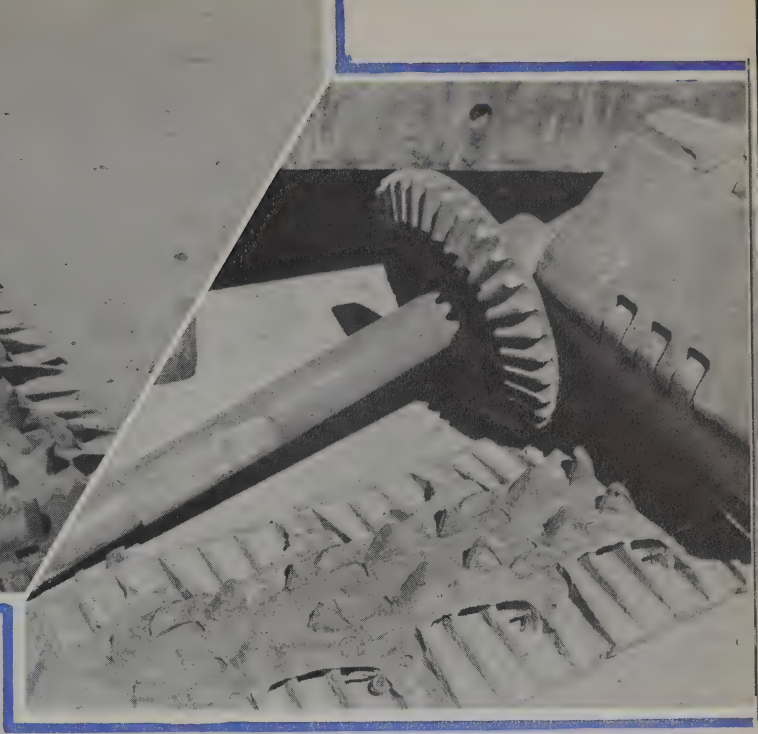


Repaired roller path gear.



Repaired roller path gear.

Repaired track pads.



Repaired track pads and travel gear.

• • •

"This machine is sure saving us a lot of man-power."

TYPED FARM-TO-MARKET PLANS

D.N. Carlton, Senior Designing Engineer
District 7

In keeping with recent studies on methods of reducing time required in plan preparation, District 7 has been experimenting with the use of typewritten data on F. M. plans. Sample sheets taken from plans prepared by this method are shown in the accompanying examples.

Data is typed on the plan sheets from work sheets and notes prepared by the designer. The accompanying examples were typed with back-up carbon on an eighteen-inch carriage machine. A 24-inch carriage machine with type face similar to Royal "Intermediate Vogue" would be preferable for plan work, however. Symbols most commonly used on plans can readily be added by most typewriter repair shops. The use of back-up carbon or a special reproduction ribbon is not essential, but will improve the printing qualities of the tracings.

Residencies using this method have found that data can be typed on F. M. plans in approximately 25 per cent of the time required for ordinary pencil lettering. This not only conserves time, but relieves experienced personnel for design or other work for which a shortage of engineering personnel exists.

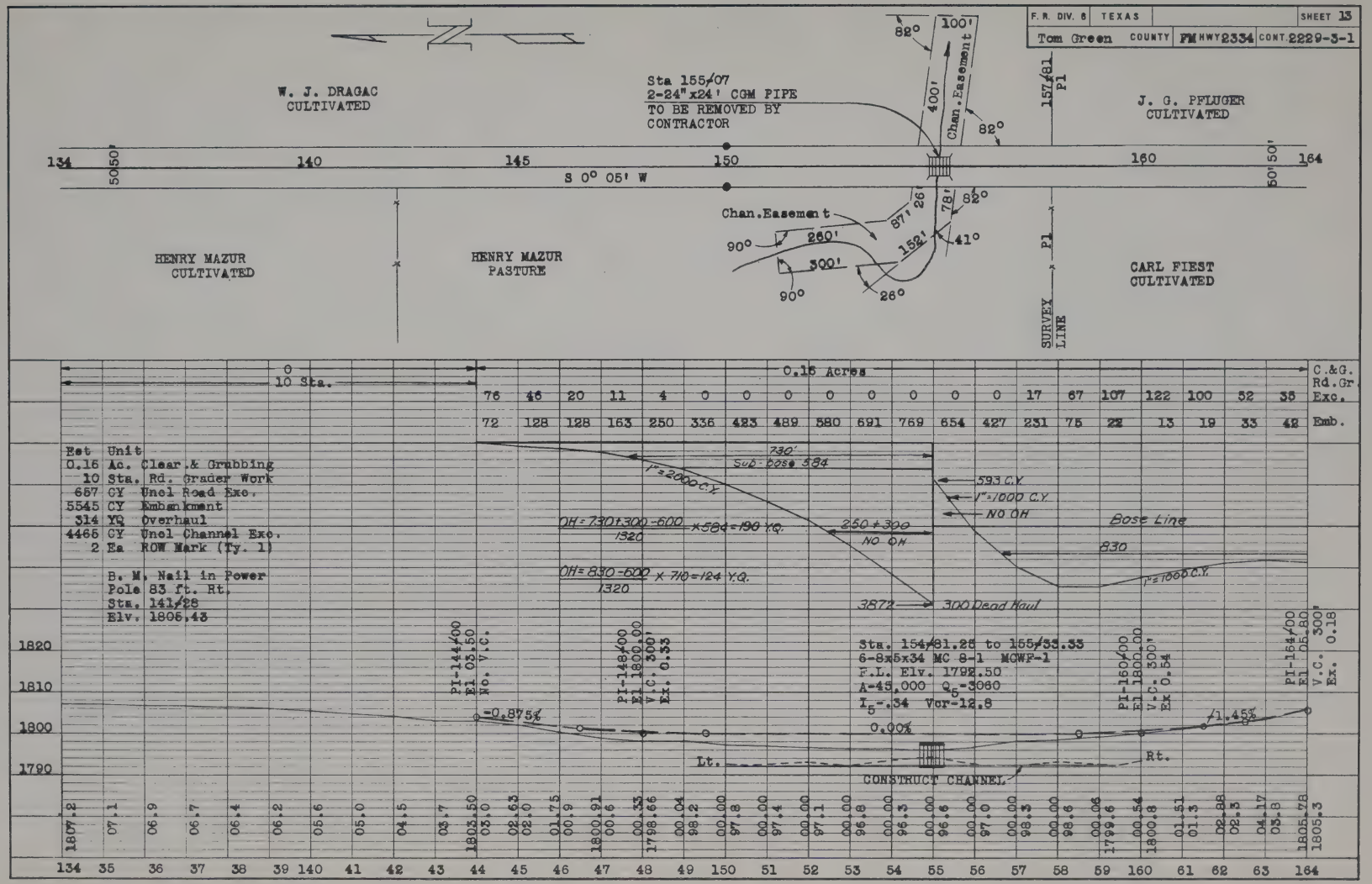
F. R. DIV. 8 | TEXAS | SHEET 5

ESTIMATE SUMMARY

Tom Green COUNTY | FM HWY. 2334 | CONT. 2229-3-1

ITEM NO.	DESCRIPTION	QUANTITIES						UNIT
		ROADWAY		BRIDGES		TOTALS		
		Estimate	Final	Estimate	Final	Estimate	Final	
100	Clearing & Grubbing	7.44				7.44		Acre
101	Unclass. Road Excav.	3,497				3,497		C.Y.
103	Unclass. Channel Excav.	11,579				11,579		C.Y.
104	Unclass. Struct. Excav.	82		107		189		C.Y.
106	Road Grader Work	280.91				280.91		Sta.
109	Stripping	4,000				4,000		C.Y.
110	Overhaul	1,430				1,430		Y.Q.
202	Sprinkling	3,085				3,085		M.G.
203	Rolling	217				217		Hrs.
203A	Rolling	423				423		Hrs.
203B	Rolling	241				241		Hrs.
218	Foundation Course	27,805				27,805		C.Y.
218	Additional Qtr. Mile Haul	603,076				603,076		C.Y.
304	Asphalt (OA-175)	34,516				34,516		Gal.
304	Aggregate (Type A, Gr. Spl.)	1,079				1,079		C.Y.
405&Sp	Class "A" Concrete (Culverts)	31.16		203.51		234.67		C.Y.
405&Sp	Reinforcing Steel	4,316		29,224		33,540		Lbs.
413	C.S.M. Pipe Arch No. 2	88				88		L.F.
413	C.S.M. Pipe Arch No. 3	132				132		L.F.
500	Removing Old Structures	4				4		Each
514	R.O.W. Markers (Type 1)	73				73		Each
514	R.O.W. Markers (Type 2)	12				12		Each
516A	Timber Post Guard Fence	17				17		Each
Spl.	Cement Stabilized Median Strip	48				48		C.Y.

QUANTITY SUMMARY


F. R. DIV. 6 TEXAS SHEET 13
Tom Green COUNTY FM HWY 2334 CONT. 2229-3-1
W. J. DRAGAC CULTIVATED
Sta 155/07
2-24"x24' CGM PIPE
TO BE REMOVED BY CONTRACTOR
Chan. Easement
J. G. PFLUGER CULTIVATED
HENRY MAZUR CULTIVATED
HENRY MAZUR PASTURE
Chan. Easement
CARL FIEST CULTIVATED
SURVEY LINE
S 0° 05' W
0.16 Acres
Est Unit
0.16 Ac. Clear & Grubbing
10 Sta. Rd. Grader Work
687 CY Uncl Road Exc.
5545 CY Embankment
314 YQ Overhaul
4465 CY Uncl Channel Exc.
2 Ea ROW Mark (Ty. 1)
B. M. Nail in Power Pole 83 ft. Rt. Sta. 141/28 Elv. 1806.43
Sub-base 584
1"=2000 C.Y.
1"=1000 C.Y.
NO OH
Base Line
1"=1000 C.Y.
3872 300 Dead Haul
Sta. 154/81.25 to 155/33.33
6-8x5x34 MC 8-1 MCWP-1
F.L. Elv. 1792.50
A-43,000 Q5-3060
I5-.34 Vcr-12.8
-0.875%
0.00%
1.45%
Lt.
Rt.
CONSTRUCT CHANNEL

TEXAS HIGHWAYS' ROADSIDE PARKS ARE AMONG MOST BEAUTIFUL IN U.S.

From January, 1955, SCREENINGS.

A telephone call to Rudolph Riefkogel, Landscape Adviser with the Texas Highway Department, District 15 in San Antonio, resulted in a world of information about roadside parks in Texas.

The building and maintenance of roadside parks in Texas has been going on since 1933. In that year, the Texas Highway Department opened what was then called the Landscape Department to select sites for roadside parks, to plan the preservation of trees and flowers and soil along Texas' highways, and to plant shrubs and trees where they would do most for preserving and beautifying the state's roads.

This was part of an over-all improvement plan by the Texas Highway Commission. Improvement included not only building roadside parks, but also general beautification, development, and road signs both for safety and instruction to make Texas' highways among the most pleasant to travel in the United States.

Since that time approximately 600 roadside parks have been built over the entire state under extremely varying conditions. Wherever possible, native materials such as limestone or sandstone are used to build retaining walls, fireplaces, shelters, and tables and benches. Where no material is at hand that will suitably meet the requirements, a hand-made, reddish colored brick is often used. This brick, often referred to as "Mexican" brick is made locally in the Rio Grande Valley near Mission. The texture and quality of this brick is thought to blend gracefully and naturally with most types of landscape. However, in some instances concrete tile block has been used.

SELECTING SITE IMPORTANT FACTOR

In selecting the site for a roadside park, the Highway Department tries to find a site that is pleasant and inviting. Wherever possible large shade trees are included in the park area. Where there are no trees of sufficient size, as in West Texas where shade trees are an oddity, the shelters are built with palm-thatch roofs or other congenial roofing material. If the terrain will allow, a view is offered the park visitor. In the photograph above* we see where the tired traveler or the week-end

*See cover picture.

Roadside park at Nueces River on U.S. 90 seven miles east of Uvalde. These shade trees prove very inviting to the travelers over this road.

excursioner could stop to eat his lunch or rest his eyes from the road. This roadside park is in the Hill Country near Kerrville. In West Texas near Pecos, San Angelo, Del Rio, and other centers, the parks are equipped with water wells going down anywhere from 50 to 100 feet or more to supply a cool drink for whoever stops and needs relief from a hot drive. The water is pumped up and kept ready for instant use in storage tanks at the site of the park. To many West Texas travelers, the roadside parks with their water, trees, and shrubs have come to be known as oases in a desert. In these areas the water is also used to water plantings along the highways.

The Texas Highway Department feels the roadside parks serve far more than just aesthetic needs of the traveler. They are real safety measures. The roadside park offers a convenient and safe area for a traveler to pull off the road and take a quick nap before going on, thus eliminating the necessity of driving when sleep pulls down the eyelids and makes a driver a danger to himself and to others. For those who are not sleepy, but are suffering from ordinary driving fatigue, the roadside park gives a cool and pleasant stopping place to rest and relax before continuing a journey. Many families take along picnic lunches when going on trips, knowing there will be a park for them to stop in somewhere along their route and have a leisurely meal. Every park is announced by a sign a mile in advance so the motorist can plan to diminish his speed and turn in safely. On the Highway Department Travel Maps, all parks are indicated by a green dot.

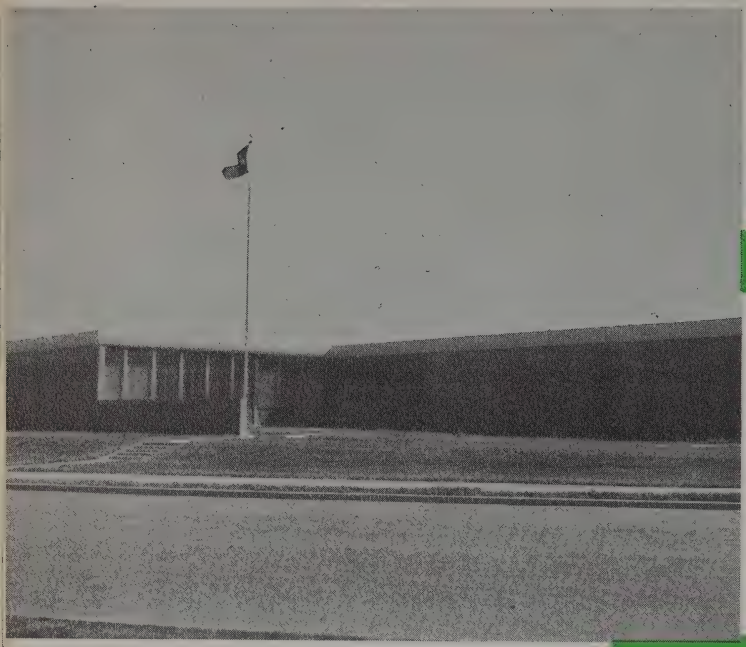
PARKS MODEL OF CLEANLINESS

June, July, and August are the heaviest traveling months; so consequently the roadside parks get the most use during this time. Every park is equipped with disposal units either in the form of conveniently placed cans, covered trenches, or incinerators. Signs are posted in the park area asking the cooperation of users in keeping it clean. Travelers comply fairly well in being tidy, but the Highway Department works on the theory that conveniently placed disposal units are the best guarantee of cleanliness. During the summer the parks are cleaned regularly on Fridays and on Mondays that is, before and after heavy use on weekends. As it is required, clean-up crews go out during the week to keep the parks spic and span. Mr. Riefkogel reports that the worst headache in the clean-up program is the watermelon season when the big, bulky melon rinds are more than most parks can bear.

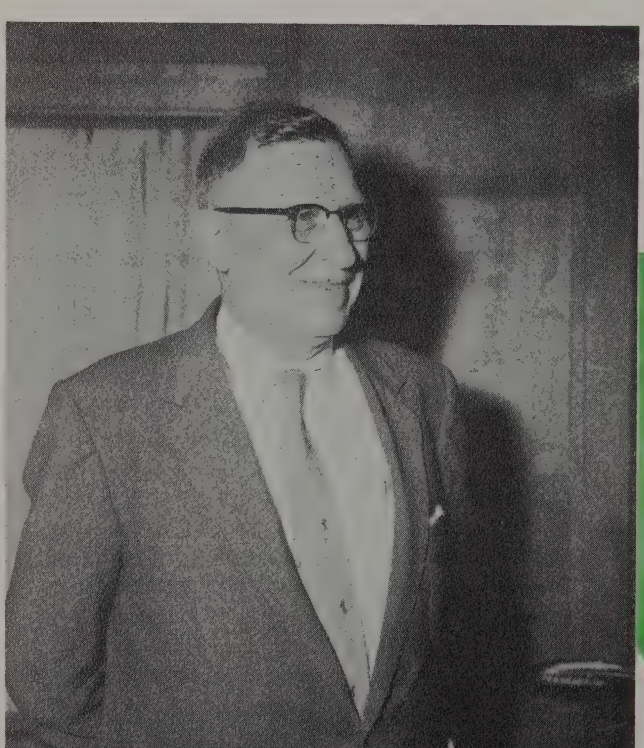
The size of roadside parks varies from one to four units. A unit consists of table, chairs, and disposal unit. The elaborateness of the park depends on the area in which it is placed as well as the development by the Landscape Adviser in charge. Each Landscape Adviser has several districts under his supervision.

Roadside parks have undergone constant improvement since 1933 except during the war years up till 1947 when men and materials were scarce for activities not directly concerned with national defense. Since 1947 much time has been spent in rehabilitating parks that had become run down during the war. But now the program is again in full swing and new projects are being planned.

THE DISTRICTS



District 18 headquarters in Dallas.



Frank W. Cawthon, District Engineer.

Big "D", home of the
Neiman-Marcus, and Di
that make it well known-
city program almost fro
fame had spread over the
properly be called a town

Back in 1841 John Neel
of the Trinity River and
settlement. Bryan would
ment" today with its sky
population of some 750, 0

The Dallas District i
the rich Blackland Belt an
based largely on cotton.
become highly industriali
Dallas, it still has a lar
of its income is still de
recent years, there has b
ing out into diversified cro
and dairying.

Highways play a big
porting all the products or
cultural areas value the
area, while the industriali
expressway system. The
area has added to the h
Dallas County as there ha
muters" along with the
county. Created in 1929,
over more than 1,900 m
some 588 employees bus
them.

DISTR

PASS IN REVIEW

CT 18

otton Bowl, State Fair, ict 18, has many factors cluding an effective publi- the birth of the city. Its ited States before it could

ryan camped on the banks ecided he would begin a dly recognize his "settle- apers, expressways, and

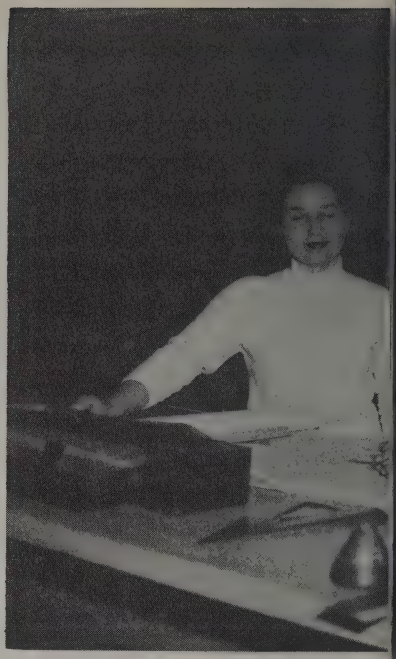
ocated almost entirely in riginally its economy was nd, although the area has , especially in and around rural population and much ed from agriculture. In n more and more branch- arming, livestock raising,

t in District 18 in trans- nating in the area. Agri- m-to-market roads in this l areas thrive on the urban id industrialization of the way load, particularly in een an increase in "com- banization of the entire istrict 18 has jurisdiction s of highways and keeps ith the job of maintaining

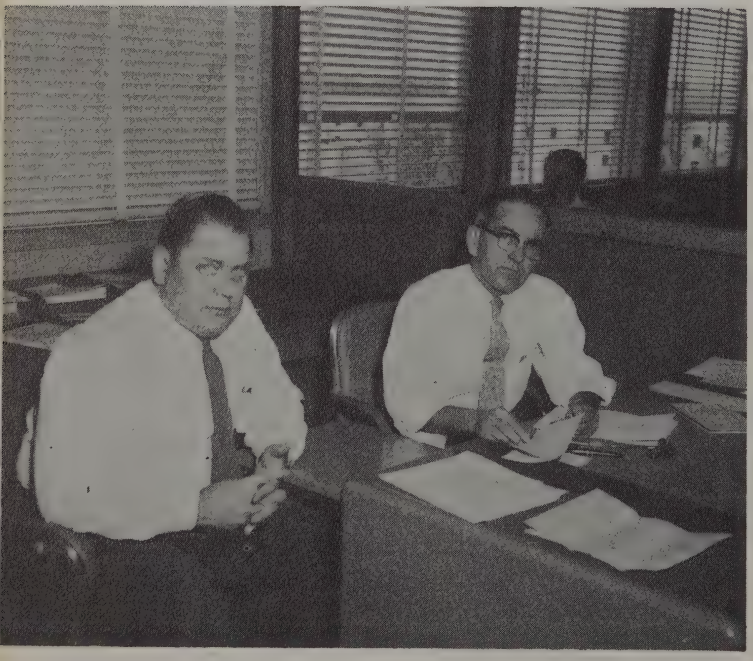
Estimates are discussed by J.W. Stapp, Office Engineer; W.A. Neaves, Junior Clerk; and W.E. Williams, Senior Resident Engineer.

Grover Green, District Maintenance Engineer and District Reporter for TEXAS HIGHWAYS, checks on some past correspondence.

Plans on U.S. 77 south of Dallas are under discussion here by G.B. Mann, Resident Engineer, and Louis E. Clarke, Resident Engineer.



Nancy Downing, Draftsman, and revise schematic layout.



Checking incoming minor equipment inventories is a part of the routine for Warner B. Collins, Senior Accountant, and Sterling Davis, Chief District Accountant.

Traffic is one thing Dallas has a Traffic Engineer, explains changes Davis, Junior Clerk.

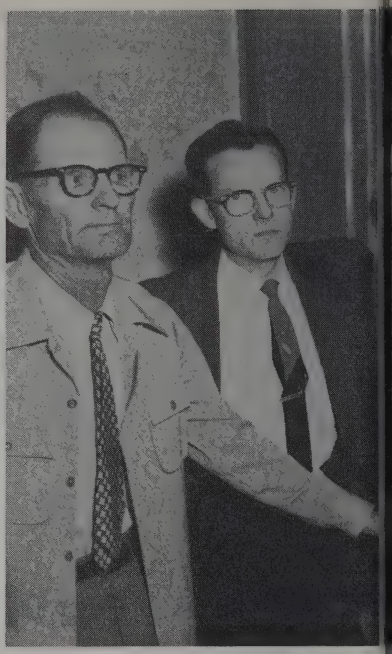
Betty Little, Junior Draftsman,

The district ledger falls under the jurisdiction of James W. Goff, District Office Clerk, and Frank Loper, Senior Accountant.

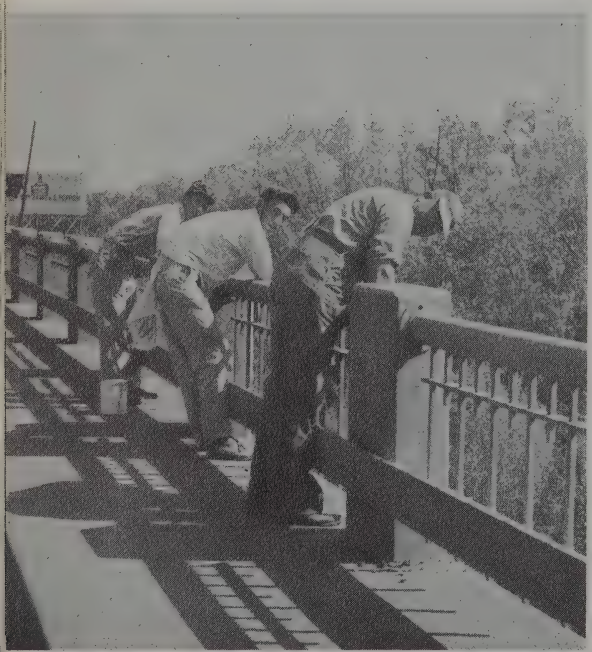
surplus of. Here, Henry R. Grann, in traffic trends for Mildred L.

Filing chores go on and on. Memory Bryan, Barbara Flynt, and Ann McClanahan, Junior Clerks, process equipment rental time slips.

Erna Stanley, District Office Clerk and secretary to the District Engineer; Nadine Tuggle, District Office Clerk; and Bessie Mathis, District Office Clerk; sort the morning mail.



Melvin L. Smith, Senior Equipment
Senior Accountant, at the equip

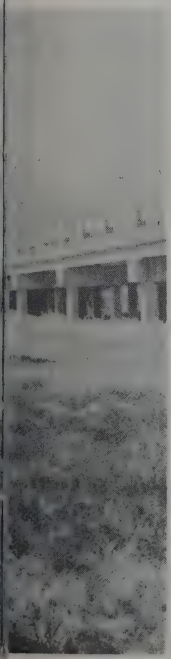


It's eyes right as Roy C. Toombs and Calvin C. Melton, Common Laborers, and James M. Hodges, Semi-skilled Laborer, pause in their job of painting guard rail.

Joseph O. Robertson, Common Laborer
roy Williamson, Semi-skilled Laborer
from the right of way.

Supervisor, and Hudson T. Jones,
ment information card file.

Norval L. Davis, Senior Laboratory Assistant; Sam M. Awalt, Senior Engineering Assistant; and Louis J. Tinnerello, Senior Engineering Assistant, decide on locations for taking samples.



nd Cecil Le-
emove trees

Roy L. Campbell, Checker; O.C. Haley, Skilled Laborer; T.B. Derryberry, Senior Inspector; and Juan Vasquez, Skilled Laborer, change clutch on an HD 5 loader.

Material Exploration

James E. Kelly, Laboratory Engineer
District 9

"Hey, Jim, where is the drill? I need a pit tested yesterday." This is the most common question we receive here in the District Laboratory, and allowing for the fact that twelve construction offices and ten maintenance offices can ask it in just as many minutes and that the drill can only be one place at a time, we are sometimes hard-pressed to satisfy all requests. However, we try to give as much service as possible.

We do not believe that our method of operation is unique, but we do think it obtains good results.

Obviously some jobs take priority over others, and the work is done in accordance with the need. When this priority has been set, the drill is sent to the site and equipped with an eighteen-inch bit, and with a drilling depth of 22 feet proceeds to explore the possible material source. The operators take samples of the material as they encounter it, trying at all times to test toward the end that the greatest utility may be made of the available materials.

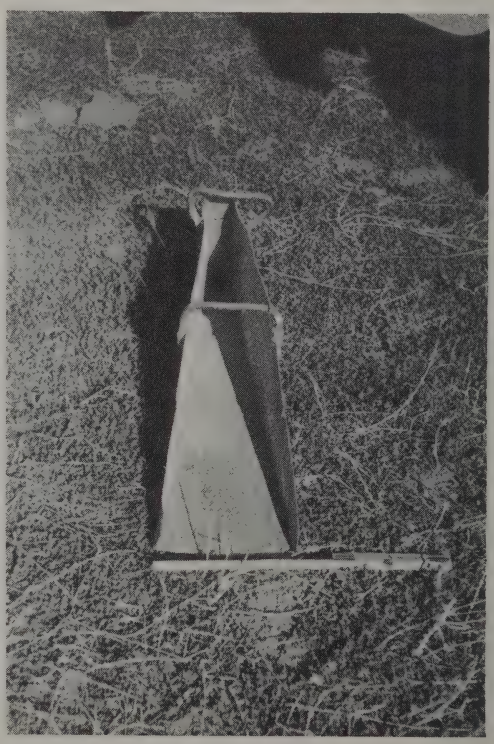
When we first started this work, we found that we could not get a satisfactory representative sample using just a shovel, so we devised a trough sampler for this purpose.

These samples are brought to the District Laboratory and tested for soil constants or, if strength design is being used, tri-axial classification.

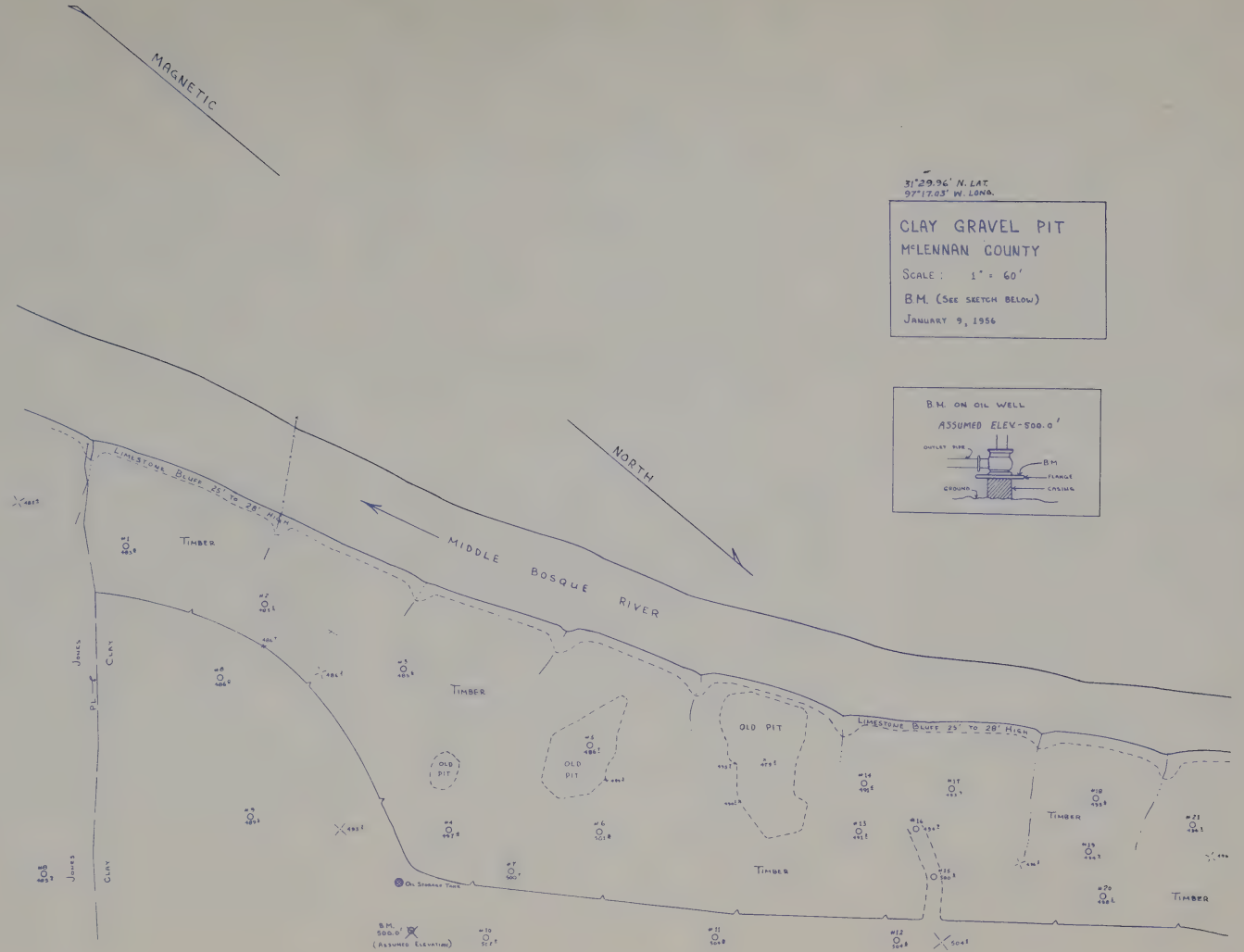
During the time of testing, Robert L. McKinney Jr., Associate Geologist, who worked as a topographer for the U. S. Geological Survey, makes a map of the area using a plane table. The map we are using as an illustration required about four hours to complete.

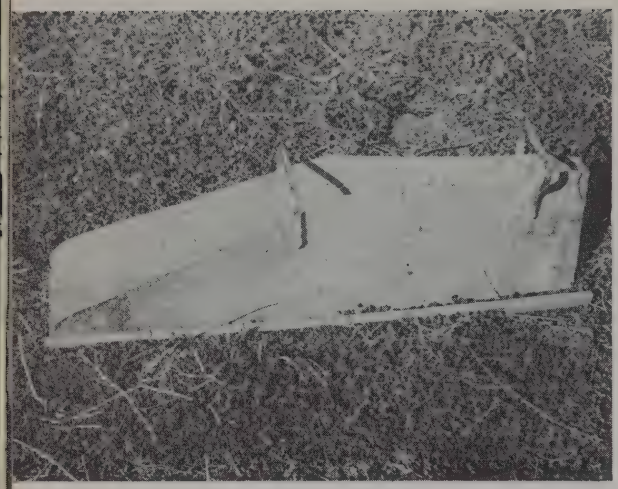
The interested engineer or foreman then receives a copy of this map along with the test data and the drilling log. We have developed a single form for reporting all the test and drilling information, eliminating one form we were using. This new form also makes the interpretation of the data an easier task.

Our operation is flexible and is varied to suit the engineers' desires, but we do find that those engineers who use this complete service receive the maximum amount of information with the minimum interference to their other work.



Sampling trough.


MAGNETIC
31°29.96' N. LAT.
97°17.03' W. LONG.
CLAY GRAVEL PIT
McLENNAN COUNTY
SCALE: 1" = 60'
B.M. (SEE SKETCH BELOW)
JANUARY 9, 1956
B.M. ON OIL WELL
ASSUMED ELEV.-500.0'
OUTLET PIPE
B.M.
FLANGE
CASING
GROUND
NORTH
MIDDLE BOSQUE RIVER
LIMESTONE BLUFF 25' TO 28' HIGH
TIMBER
OLD PIT
JONES
CLAY
B.M. 500.0' (ASSUMED ELEVATION)



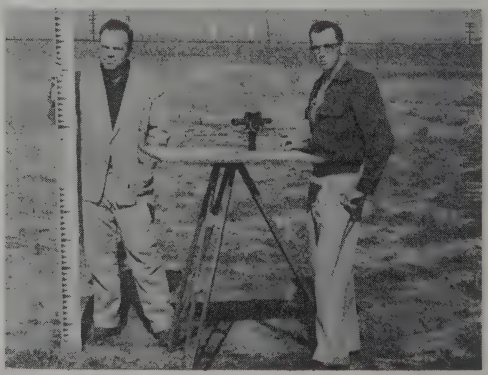
Sampling trough.

John E. Price, Skilled Laborer, collects samples while drilling test hole.

Sampling trough in position.

Tony G. Nelson, Skilled Laborer (left), and John S. Westbrook Jr., Junior Laboratory Assistant, sack up samples.

Full sample.



Robert L. McKinney Jr., Associate Geologist (right), and Bobby J. Hodnett, Junior Laboratory Assistant, prepare to map pit.

MATERIALS DRILLING REPORT & LOG

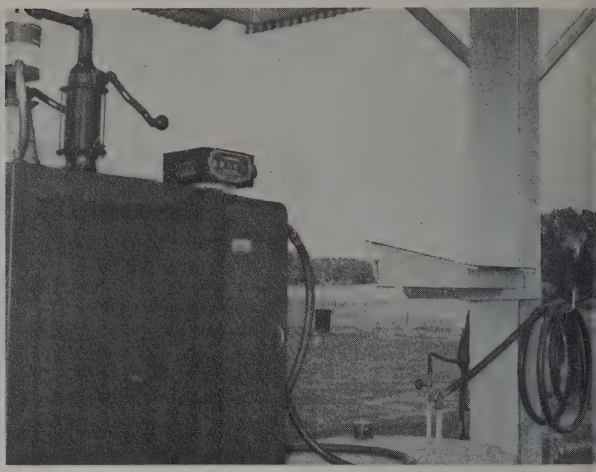
Location _____ Property CLAY

County McLennan Project IPE 646 Control 2060-1 Date December 29, 1955

Depth From	Depth To	Description of Material	Sample Number	LL	PI	SL	LS	SR
		HOLE 1						
0	1'	Soil						
1'	1.5'	Conglomerate						
1.5'	3.5'	Sand						
3.5'	4'	Conglomerate						
4'	8'	Gravel	2274	30.2	12	19.8	5.5	1.76
		HOLE 2						
0	6'	Gravel	2275	29.3	13	17.6	6.2	1.82
6'	7'	Rock, limestone, white						
		HOLE 3						
0	3'	Soil, brown						
3'	8'	Gravel	2276	32.9	16	16.6	8.5	1.84
		HOLE 4						
0	3'	Soil, brown						
3'	16'	Gravel	2277	24.6	8	14.8	5.5	1.87
	16'	Rock, limestone						

Sample Number	Percent Retained On									% Soil Binder	Remarks
	2½	2	1½	1	3/4	½	¼	10	40		
2274			2	9	20	44	63	72	76	22.5	
2275			3	9	20	41	69	82	89	11.4	
2276			2	4	18	36	59	70	81	19.4	
2277			.8	9	18	31	48	60	70	30.4	

General view of service station island in maintenance yard.



Small storage box attached to column holds necessary small items.

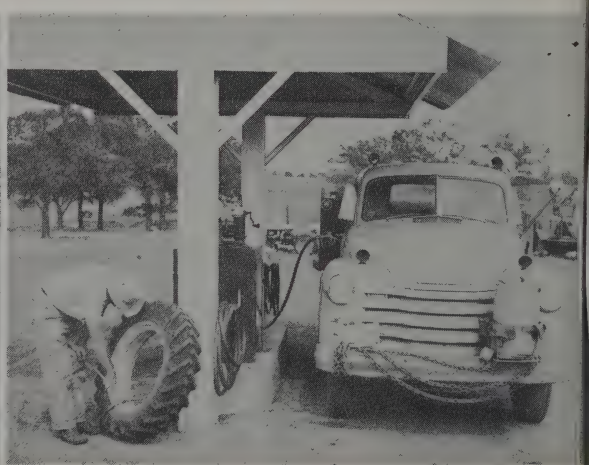
MADISONVILLE SERVICE STATION

O.L. Crain, Assistant District Engineer
District 17

We have constructed a service station at the Madisonville maintenance yard at a cost considerably less than the original funds provided. The facility cost us approximately $800 and can handle almost any servicing necessary for a car or truck except during hard or blowing rains.

Note the small waterproof box attached to one of the columns for storing the oil and gas book, pliers, rags, air gauge, and small tools needed around a service station.

Dump truck stops for servicing before heading for the job.



Truck's gas tank is filled while spare is checked.

Proper Charges & Cost Records For Center Striping

C.W. Batchelor, Maintenance Superintendent
District 6

For some time we have been keeping cost records of center-stripe work in our District. These reports show not only the cost per mile, but also give us the amount of paint and beads used per mile. The reports cover the work done in each maintenance section each month, and each foreman in the district receives a copy of the report. This method then gives each foreman a comparative cost between himself and the other foremen.

Just recently we discovered that we were not getting true comparative cost records between foremen due to the fact that there was some doubt as to whether some phases of the work should be charged to equipment, a maintenance operation, or a center-stripe operation. For instance, should a major cleaning job on the stripe machine be charged against the equipment or center stripe? Should vacation time, sick leave, and holiday time for the three men regularly assigned to center striping be charged to center striping or maintenance? There are others that will be listed under our recently adopted. district policy for proper charges to center striping which will be quoted at the end of this article.

All of the phases of work that involved doubt as to proper charges were thoroughly discussed at our last foremen's meeting and the policy adopted was agreed upon by a large majority of the foremen.

In talking to personnel from various other districts we find that the same condition exists between districts, except on a much larger scale which, of course, fails to give us a true comparative cost between districts. We find in one district that no equipment or labor charges are made to the striping except when the equipment or labor is actually striping, while another district will charge all labor and equipment to the cost for the day. One district will charge cost of setting center points to center stripe, while another will charge the cost to a maintenance operation. For these reasons we never know just how our cost compares with other districts. We feel that the difference in methods of center-stripe charges between districts could be corrected, and a set policy established for proper charges by means of a study by a committee, followed by an Administrative Order.

Our district policy to be followed in making charges to center-stripe

work is as follows:

1. All holiday time, sick leave, and vacation time for the three men that go with the striping equipment will be charged to the center-stripe work.

2. When a major cleaning is required on the stripe machine, not more than one day for the three men is to be charged to the equipment. Any additional time required will be charged to center stripe.

3. When weather conditions do not permit striping, the maintenance foremen will assign duties to the three men with the striping equipment, and of course, this will be charged to maintenance.

4. All mileage and labor involved in going to any section of highway to be striped, or moving the stripe equipment, will be charged to center stripe.

5. On all highways that require center points for pilot line, charges for setting the points will be to center stripe.

6. When center points are raised with additional bottle caps, or some other method ahead of seal coats, all cost involved will be charged to center stripe.

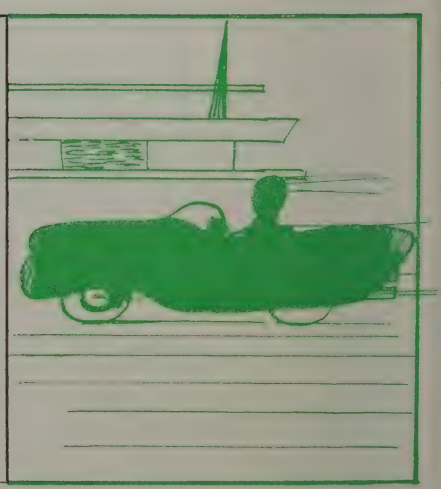
7. All expense of meals allowed the three men with the striping equipment will be charged to center stripe as long as their main duties are center-stripe work.

● ● ●

It Makes You Shudder!

A nimble and imaginative statistician has recently figured out that in 1900 the accident death rate in horse transportation was thirty deaths for every one million miles of travel.

In contrast, the automotive death rate today is running at about 6.4 for each one hundred million miles of travel. Gives one pause to consider what the carnage would be if, instead of cars and trucks, the nation today had sixty-two million horse-drawn vehicles.



Modification on Paint Striper

We recently installed 500-watt, immersion-type electric heaters, thermostatically controlled in the center stripe paint tanks. Current is supplied by a one and one-half kilowatt light plant mounted in the pickup in which the tanks are located.

The results have been very satisfactory. Heating can be started as soon as twenty gallons of paint are placed in the tank and by the time filling of tanks and bead bin is completed in the warehouse, and the machine reaches the point where painting is to begin the temperature of the paint has reached a 90 degree thermostat setting. The warm paint sprays more evenly, and consequently dries faster than cold paint. A better job is secured with less loss of time due to clogging paint guns.

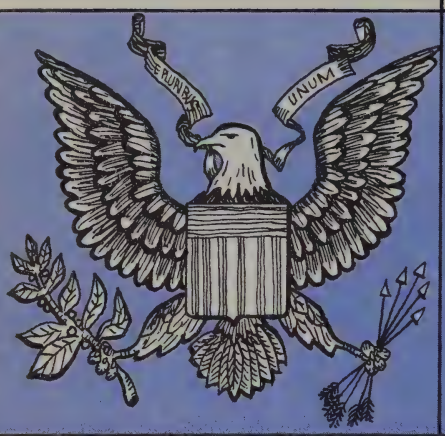
These heaters and thermostats were purchased from W.H. Curtain & Company, Houston, Texas. The heaters are listed in the Catalogue as "Immersion Heater", Catalogue Number 9668-Price $7.50 each. The thermostats are listed as Catalogue Number 21611-A-Price $11.40 each.

The heaters were installed near the bottom of the tanks through holes drilled in the side of the tanks. The length of the heating rod is about 60 inches. This rod is straight when delivered but can be coiled in the bottom part of the tank.

The thermostats were installed in holes drilled in the tanks a few inches above the heater.

These heaters have improved the quality of the stripe and lessened the delays to the work so much that I think the cost of installation was recovered in a very short time.

Zay Johnson, District Maintenance Engineer
District 13



UNITED STATES COAST AND GEODETIC SURVEY

The March, 1956, issue of TEXAS HIGHWAYS carried an article on the preservation of survey monuments. In this article, Commander Deane brings out some interesting facts about the operations of the U.S. Coast and Geodetic Survey, and discusses the work of a triangulation party in Fredericksburg.

William F. Deane, Commander, USC&GS
Chief of Party

A triangulation party of the Coast and Geodetic Survey with headquarters in Fredericksburg, Texas, is now engaged in precise surveys in Blanco, Burnet, Gillespie, Hays, Kendall, Kerr, Llano, Mason, and Travis Counties. A brief description of all of the activities of the bureau should be undertaken before the local project is discussed.

The Coast and Geodetic Survey is one of the bureaus of the Department of Commerce. The Coast Survey, as it was first known, was established by act of Congress during the administration of Thomas Jefferson. Originally founded to survey and chart the navigable waters of the East Coast, the bureau now surveys the coasts of all of the United States and our territorial possessions, conducts tide and current surveys, investigates earthquakes, flies aerial photographic missions, makes magnetic observations, maintains latitude observatories, establishes geodetic control, and compiles and prints nautical and aeronautical charts. The service is a small one consisting of 185 commissioned officers and about 2,400 Civil Service personnel. The commissioned corps comprises one of the seven uniformed services.

For its surveys of the water areas the bureau has four major ships and thirteen auxiliary vessels. These craft are responsible for the survey of 15,000 miles of shoreline waters of the Atlantic and Gulf Coasts, 8,000 miles of the Pacific, and 34,000 miles in the Alaska region; the Hawaiian and other islands add many more miles. From these surveys about 770 differ-

ent nautical charts are compiled and printed. There are about two million of these charts issued annually.

From studies of the tides and tidal currents the bureau publishes tide tables and current tables which accurately predict these water movements at least one year in advance.

Aeronautical charts are compiled and printed from aerial photographs taken by our own personnel. The cameras used may be those with single lens but the Coast and Geodetic Survey has a unique camera, the only one in existence, that has nine lenses. The use of the latter camera makes possible the photographing of a much larger area with each exposure. There are about 1,200 different aeronautical charts and about 38 million copies are issued annually.

The study of magnetism is necessary for obtaining the correct variation from true north for any type of compass. This is essential when one realizes that the variation of magnetic north from true north ranges from 22 degrees west on the Atlantic Coast to about 24 degrees east on the Pacific side.

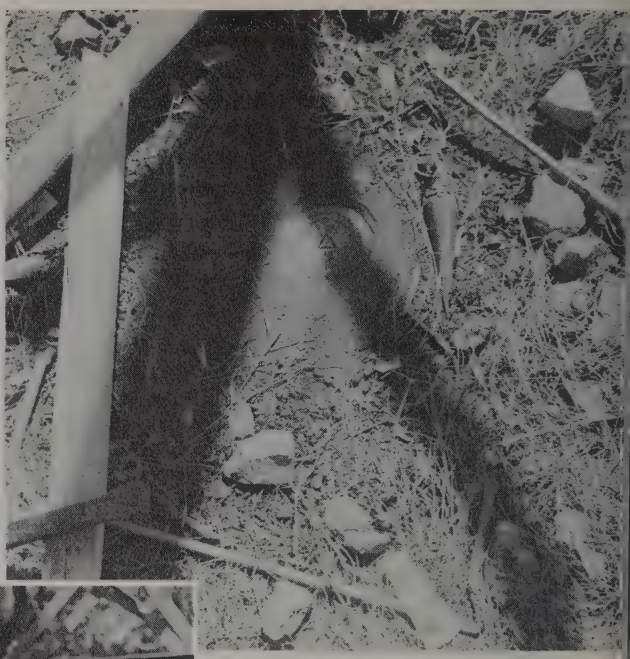
Earthquake investigations and study are prime requisites for planning construction in suspect areas. Certainly builders in some parts of California and Montana, and in a foreign country such as Japan, must give consideration to possible earth movements when designing structures. The Coast and Geodetic Survey is now charged with the operation of a seismic sea wave warning system in the Pacific Ocean. These sea waves, erroneously called tidal waves, can cause great loss of life and devastate many square miles. A warning of such impending disaster can do much to lighten the blow.

The operations of the party based in Fredericksburg involved all phases of precise triangulation. These come under the broad term of geodetic control. This party is engaged in locating with the greatest degree of accuracy many marks in the counties mentioned before. These marks are placed in the ground at such distances from one another that there will be one available about every seven miles. Supplemental marks are placed along highways at distances of four miles. These marks are located in

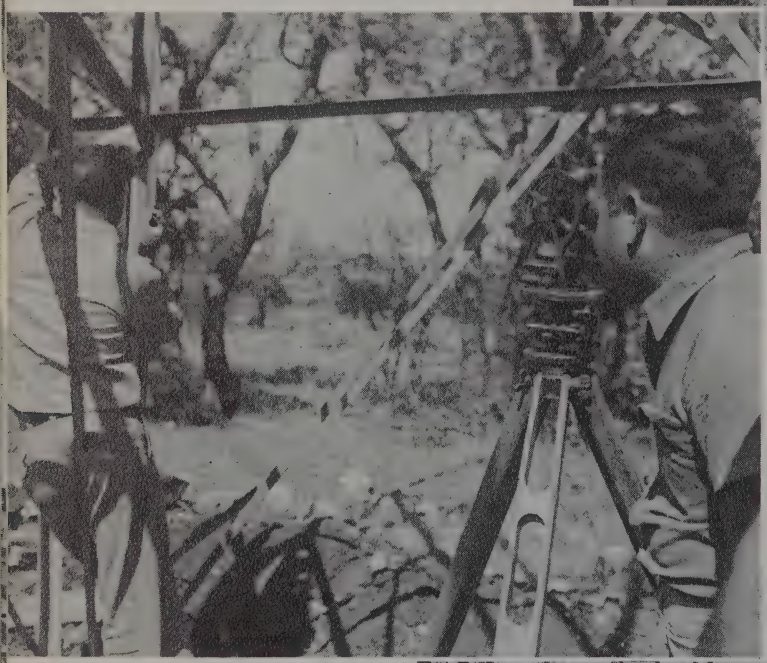
Commander Deane stands in front of the living quarters and office.

terms of latitude and longitude, that is, the distance north of the equator and west of Greenwich, England. A network of such marks becomes the backbone for future mapping operations and land surveys. Most surveys with which the average person is familiar are plane surveys, and the curvature of the earth is not considered. Geodetic surveys do consider the curvature of the earth and consider that body to be a spheroid.

Because of this curvature and of such obstructions to lines of sight as trees and buildings, it is often necessary to erect steel towers on which to mount surveying instruments. In mountainous or hilly areas the tops of



Triangulation station under tower with some of the tools used in erecting tower over station.



Leveling tower being constructed over triangulation station northeast of Llano (Barker) which was established in 1935.

Filling in around legs of tower being constructed.

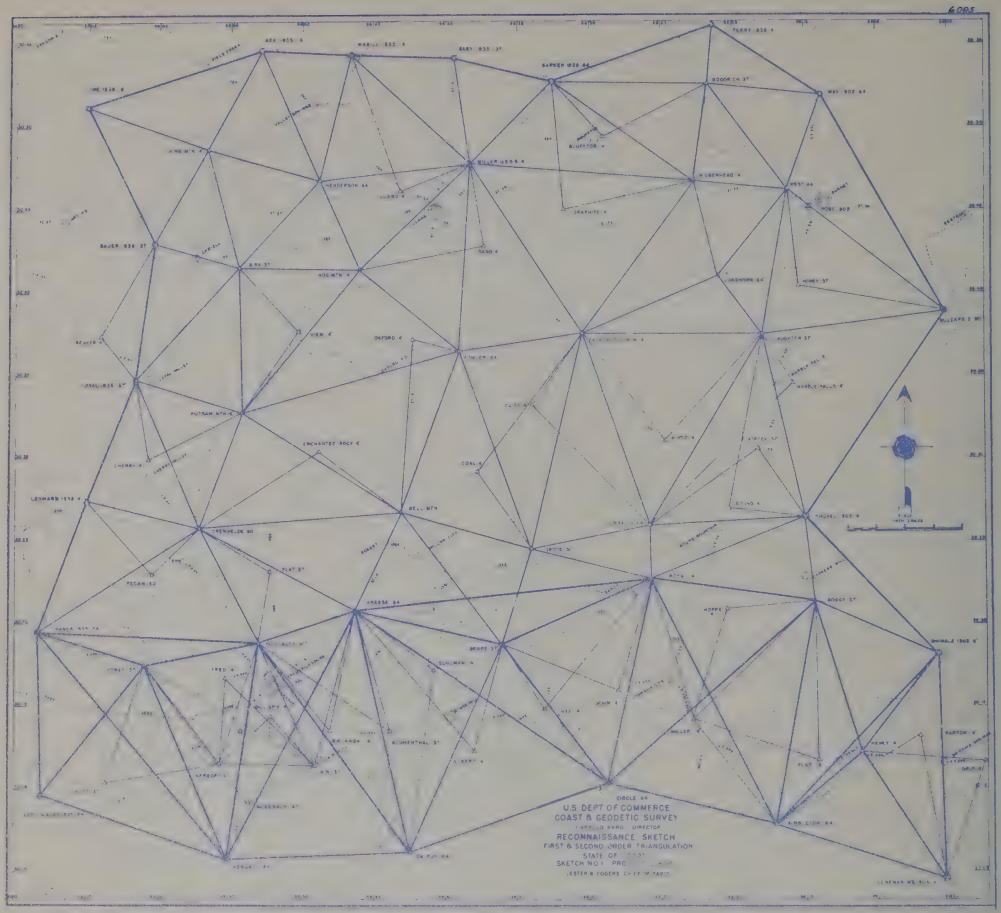
The triangulation station is in the direct center of the tower.

It looks frail, but the men constructing it act as if they were on the ground.

These two men are collumating the instrument and light plate (using plumb line).

land masses are used instead of resorting to towers. In the area now being surveyed the triangulation party uses a combination of towers and hilltops on which to place the marks. When one realizes that the curvature of the earth is approximately 57 feet in a distance of ten miles he can see the necessity for resorting to height in order to see from one mark to another.

Steel towers are actually made up of two separate towers built over the triangulation mark. The inner tower, which cannot be connected to the outer, is used for the support of of the instrument. This instrument measures horizontal and vertical angles to the nearest tenth of a second and is called a theodolite, a refinement of the surveyor's transit. The



outer tower supports the observer, the recorder, and any loose gear that may be needed. These dual towers are necessary to insure that the observer does not disturb the instrument as he walks about.

A triangulation party usually has two building parties for the erection of these tall steel towers. An efficient crew of five or six men can erect a 116-foot double tower over a mark in from six to eight hours. This crew can tear down two of these dual towers in about the same time. The builders work daylight hours and are followed in the evening by the observing units. The observers, after mounting their instruments, sight on lights placed on other towers, measuring the angles between the various exhibited lights. It has been found that observations on lights at night give the most accurate results. All recorded notes are turned over to a computer for assimilation and computation; from the computer the calculations go to the Washington, D. C., headquarters of the Bureau for final adjustment.

This particular party stays in one locality from two to three months. This was complicated in the summers of 1953 and 1954 when the party was sent to work in Arctic regions. Trucks are used for transportation in the United States but aircraft provide the means of movement in the Arctic.

The Fredericksburg party has a complement of one commissioned officer and 25 Civil Service personnel. Being transients, most party members and their families occupy large house trailers. The government furnishes two trailers for office use. The personal trailers now number nineteen, and the total population of the party is approximately 70 men, women, and children.

What's in a Name?

Historical personalities and events have given rise to a lot of unusual names for Texas towns. An Indian raid was indirectly responsible for the strange name of this rural community in north central Llano County. Baby Head, located on State Highway 16 north of Llano, takes its name from nearby Babyhead Mountain. About 1850 when early settlers arrived, they discovered that raiding Comanches had killed a captured white baby and put his head on a pole on the mountain. From this gruesome discovery both the mountain and the community got their names. In 1933 Baby Head reported one business, several dwellings, a cemetery and school and a population of ten. This school building is about all that is left.

Friend in need. . .

. . . Your thoughtfulness in suggesting that I follow Mr. Huntington through Brownwood and around the high water was indeed a real kindness. He is indeed a most capable and thoughtful guide.

Often one has only to have a little difficulty to be reminded there are many considerate and able people left in the world. I have no doubt that many people have come to the same conclusion during the recent weather disturbances in Texas. . .

Willie Holdsworth
Austin, Texas

Some liked it. . .

. . . Congratulations to you and your staff on another fine job on the Texas Highway Map for 1956. It is really a complete and colorful publication. . .

Charles Hawkes
Associate Editor
The Arlington Citizen
Arlington, Texas

It's those wide open spaces that do it. . .

. . . We liked your highways and roads, your scenery and courtesy. We fell in love with Texas! People seem to have an extra zest for life and a sureness of purpose. We disliked having to come home so soon!!

Mrs. Joseph Cordes
Independence, Missouri

Roadside parks again. . .

. . . The roadside parks were wonderful, only some of them are too close together—then none of them. . .

B. J. Roberts
Nantucket Island
Massachusetts

We fine them, too, but we have to catch them first. . .

. . . Itook a trip to Detroit, Michigan, and their highways were clean and neat. Do you know why? Because it was a $50 fine for dumping cans and paper on the highway. In the other states there were fines for dumping cans and paper on the highway but Texas highways are dirty with beer cans and paper. So I would like to see the highways clean and neat. . .

Signed

All this and dewberries, too. . .

. . . Because the roads are wonderful we saw no wrecks on our trip. We picked lots of dewberries and made jelly while in Texas. We saw lots of fine cattle. Seems to be just what anyone is looking for. Nice cities also in Texas. . .

Vicksburg, Mississippi

A suggestion. . .

. . . A little more historical information could be given on road signs. Your roads are good, and your roadside parks. . .

E. F. Irwin
Salt Lake City, Utah

Nevertheless, meaning here is clear, yes?

. . . I live on 15 highway at underpass is 13 feet and inches tall. A lot of load try under and can't. They back up the hill and go around county road. One load came back to my railroad gates and through pasture and shut all gates. Put a sign at the go around tell him how. He can go the extra two in no time. . .

Signed

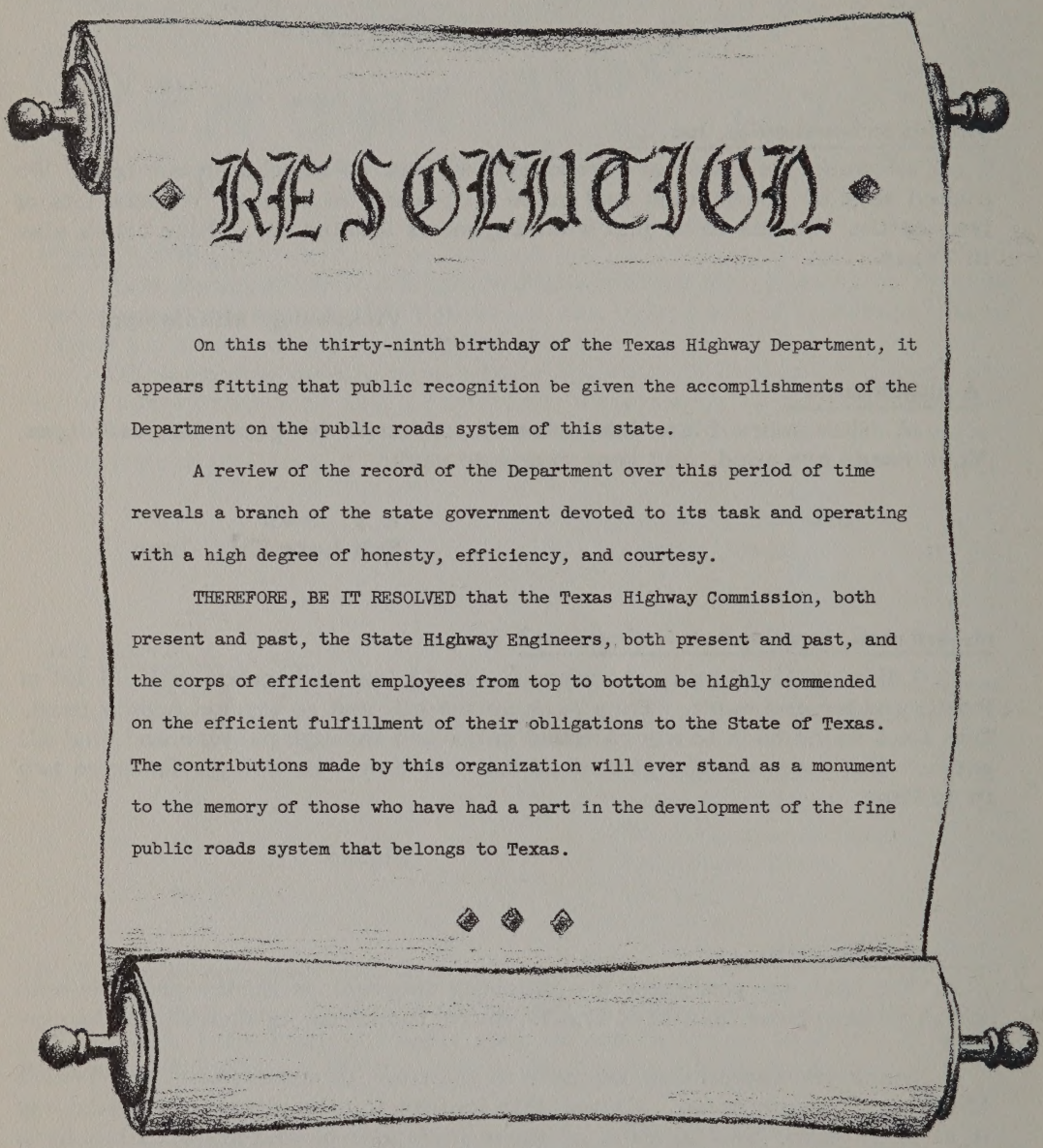
Individual bouquets. . .

. . . We have as you know a continuing interest in all the projects with which we have been identified and Baytown Tunnel is, of course, no exception.

Since its completion we have from time to time, with Mr. Travis McKinney's permission, visited this facility for the purpose of observing it at first hand, and in each of these instances he and his staff has been most helpful and cooperative.

Quite frankly, I feel that his courtesies extended us during these visits should not go by unnoticed and I have taken this opportunity to express our appreciation—if I may say so, you are to be congratulated on having a man of Mr. McKinney's caliber on your staff. . .

A. Bahn Jr.
Parsons, Brinckerhoff, Hall
and MacDonald Engineers
New York, New York



RESOLUTION

On this the thirty-ninth birthday of the Texas Highway Department, it appears fitting that public recognition be given the accomplishments of the Department on the public roads system of this state.

A review of the record of the Department over this period of time reveals a branch of the state government devoted to its task and operating with a high degree of honesty, efficiency, and courtesy.

THEREFORE, BE IT RESOLVED that the Texas Highway Commission, both present and past, the State Highway Engineers, both present and past, and the corps of efficient employees from top to bottom be highly commended on the efficient fulfillment of their obligations to the State of Texas. The contributions made by this organization will ever stand as a monument to the memory of those who have had a part in the development of the fine public roads system that belongs to Texas.

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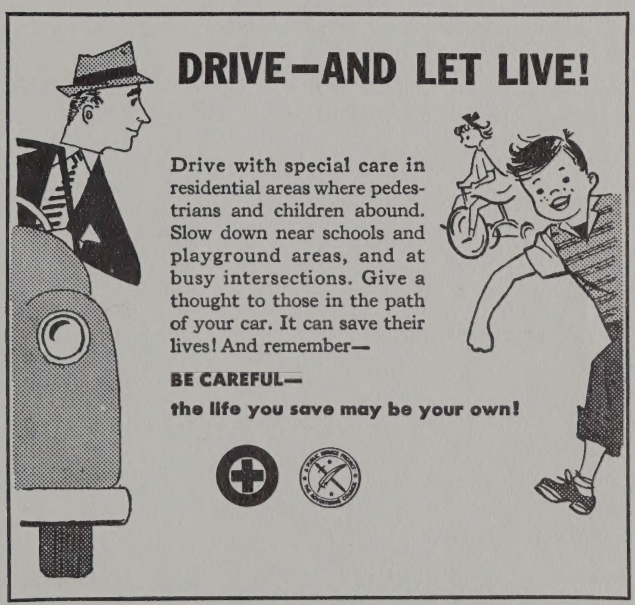
This resolution was adopted by the Texas Good Roads Association at its annual meeting in May.


DRIVE—AND LET LIVE!
Drive with special care in residential areas where pedestrians and children abound. Slow down near schools and playground areas, and at busy intersections. Give a thought to those in the path of your car. It can save their lives! And remember—
BE CAREFUL—
the life you save may be your own!